

## ABSTRACT

It is an object of the present invention to enable control to make ignition timing agree with MBT without measuring torque and combustion pressure. The negative ion current in an engine combustion chamber is measured; and a first crank angle B corresponding to the rising point on the characteristic curve of a negative ion current E and a second crank angle C corresponding to the peak point on the characteristic curve are determined; and the ignition timing is controlled so that a third crank angle G in the midpoint between the first crank angle B and the second crank angle C becomes a specified target crank angle.